

What is claimed is:

1. A cell transformed to express on its surface a component which binds to an Fc receptor of an effector cell.
- 5 2. The cell of claim 1, wherein the component is an antibody or an antigen binding fragment thereof.
3. The cell of claim 2, wherein the fragment is a single chain Fv fragment.
- 10 4. The cell of claim 2, wherein the antibody is selected from the group consisting of an IgA, an IgG and fragments thereof.
5. The cell of claim 1, wherein the component which binds to the Fc receptor is produced recombiantly in the cell.
- 15 6. The cell of claim 4, wherein binding of the antibody to the Fc receptor is not blocked by IgA or IgG.
- 20 7. The cell of claim 5 wherein the component binds to an Fc γ receptor or an Fc α receptor.
8. The cell of claim 1 which is a mammalian cell.
9. The cell of claim 1 further comprising on its surface an antigen selected from the group consisting of a tumor antigen and a component of a pathogen.
- 25 10. The cell of claim 1 which is a tumor cell.
11. The cell of claim 9, wherein the tumor antigen is selected from the group consisting of HER-2/*neu*, TAG 72, carcinoembryonic antigen, and gastrin releasing peptide.
- 30 12. The cell of claim 9, wherein the pathogen is a virus.
13. The cell of claim 9, wherein the pathogen is a bacterium or a fungus.
- 35 14. The cell of claim 1, which is transformed *ex vivo* to express the component which binds to the Fc receptor.

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15. The cell of claim 1, wherein the Fc receptor is selected from the group consisting of an Fc γ receptor, an Fc α receptor, an Fc μ receptor, and an Fc ϵ receptor.
- 5 16. The cell of claim 1, wherein the Fc receptor is selected from the group consisting, of Fc γ I, Fc γ II, and Fc γ III.
- 10 17. The cell of claim 1, wherein the component which binds to the Fc receptor is expressed recombinantly as a fusion protein comprising a transmembrane protein and a Fc receptor binding protein.
18. The cell of claim 17, wherein the transmembrane protein comprises the transmembrane domain of a platelet derived growth factor receptor.
- 15 19. The cell of claim 2, wherein the antibody is selected from the group consisting of antibody H22 having ATCC deposit number CRL 11,177, and antibody A77.
- 20 20. The cell of claim 19, wherein the fragment is a single chain Fv fragment of antibody H22 or A77.
21. The cell of claim 17, wherein the fusion protein comprises a single chain Fv fragment of antibody H22 or antibody A77 and a transmembrane protein.
22. A cell transformed to express a fusion protein comprising (a) an antibody or antibody fragment which binds to an Fc receptor of an effector cell, and (b) a transmembrane protein.
- 25 23. The cell of claim 22, wherein the antibody fragment is a single chain Fv fragment of antibody H22 having ATCC deposit number CRL 11,177 or of antibody A77.
24. The cell of claim 22, wherein the transmembrane protein is the transmembrane domain of a platelet derived growth factor receptor.
- 30 25. The cell of claim 22, which is a tumor cell transformed *ex vivo* to express the fusion protein.
- 35 26. The cell of claim 22, which is a cell infected with a pathogen, and wherein the cell is transformed *ex vivo* to express the fusion protein.

27. A method of increasing an immune response in a subject comprising administering to the subject a cell transformed to express on its surface a component which binds to an Fc receptor of an effector cell.
- 5 28. The method of claim 27 further comprising administering to the subject an agent that increases expression of Fc receptors on effector cells.
29. The method of claim 28, wherein the agent is a cytokine.
- 10 30. The method of claim 29, wherein the cytokine is selected from the group consisting of G-CSF, GM-CSF, IFN- γ , TNF, and combinations thereof.
31. The method of claim 27, wherein the cell is a tumor cell.
- 15 32. The method of claim 27, wherein the cell is transformed *ex vivo*, and then administered to the subject.
33. A method of increasing an immune response to an antigen, comprising transforming a cell which expresses the antigen with a nucleic acid encoding a protein which binds to an Fc receptor on an effector cell; and contacting the cell with an effector cell in the presence of a lymphocyte.
- 20 34. The method of claim 33 wherein transforming the cell is performed *ex vivo*, and contacting the cell with an effector cell is performed *in vivo*.
- 25 35. The method of claim 35, wherein the nucleic acid encodes an antibody or antigen binding fragment thereof.
36. The method of claim 33, wherein the antibody comprises antibody H22 having ATCC number CRL 11,177, or antibody A77.
- 30 37. The method of claim 36, wherein the antibody fragment comprises a single chain Fv fragment of H22 or A77.
- 35 38. The method of claim 33, wherein the nucleic acid encodes a fusion protein comprising an antibody or antibody fragment and a transmembrane protein.

39. The method of claim 33, wherein the antigen is selected from the group consisting of a tumor antigen and a component of a pathogen.
- 5 40. An expression vector encoding a fusion protein comprising a portion which binds to an Fc receptor on an effector cell and a transmembrane protein.
41. The expression vector cell of claim 40, wherein the transmembrane protein comprises the transmembrane domain of a platelet derived growth factor receptor.
- 10 42. The expression vector cell of claim 40, wherein the portion that binds to an Fc receptor comprises an antibody or an antigen binding fragment thereof.
- 15 43. The expression vector cell of claim 42, where the antibody is selected from the group consisting of humanized antibody H22 having ATCC deposit number CRL 11,177, and antibody A77.
44. The expression vector cell of claim 42, wherein the antigen binding fragment is a single chain Fv fragment which binds to an Fc γ receptor or an Fc α receptor.
- 20 45. The expression vector cell of claim 40, wherein the Fc receptor is an Fc γ receptor or an Fc α receptor.